ATCC

Catalogue of Recombinant DNA Materials

2nd edition, 1991

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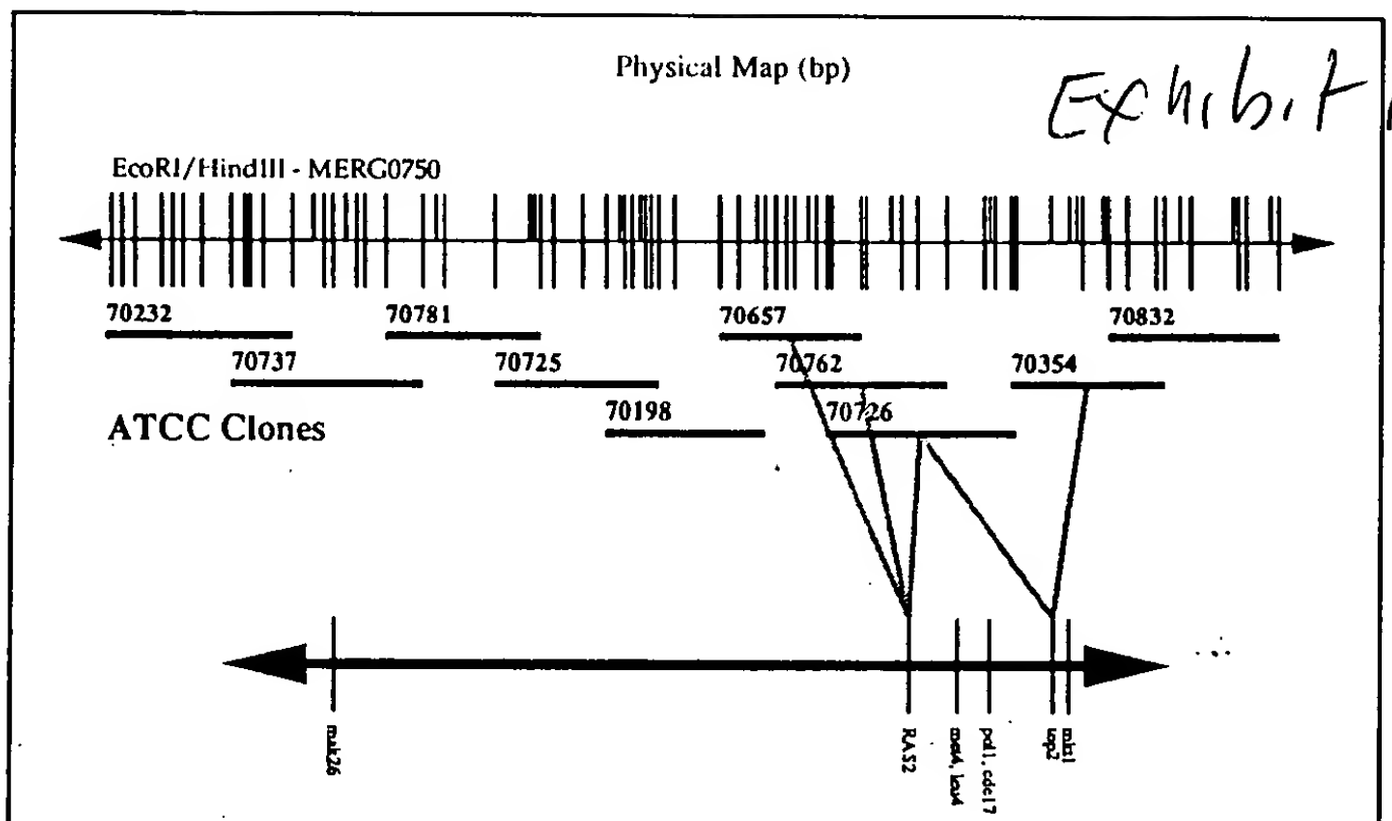

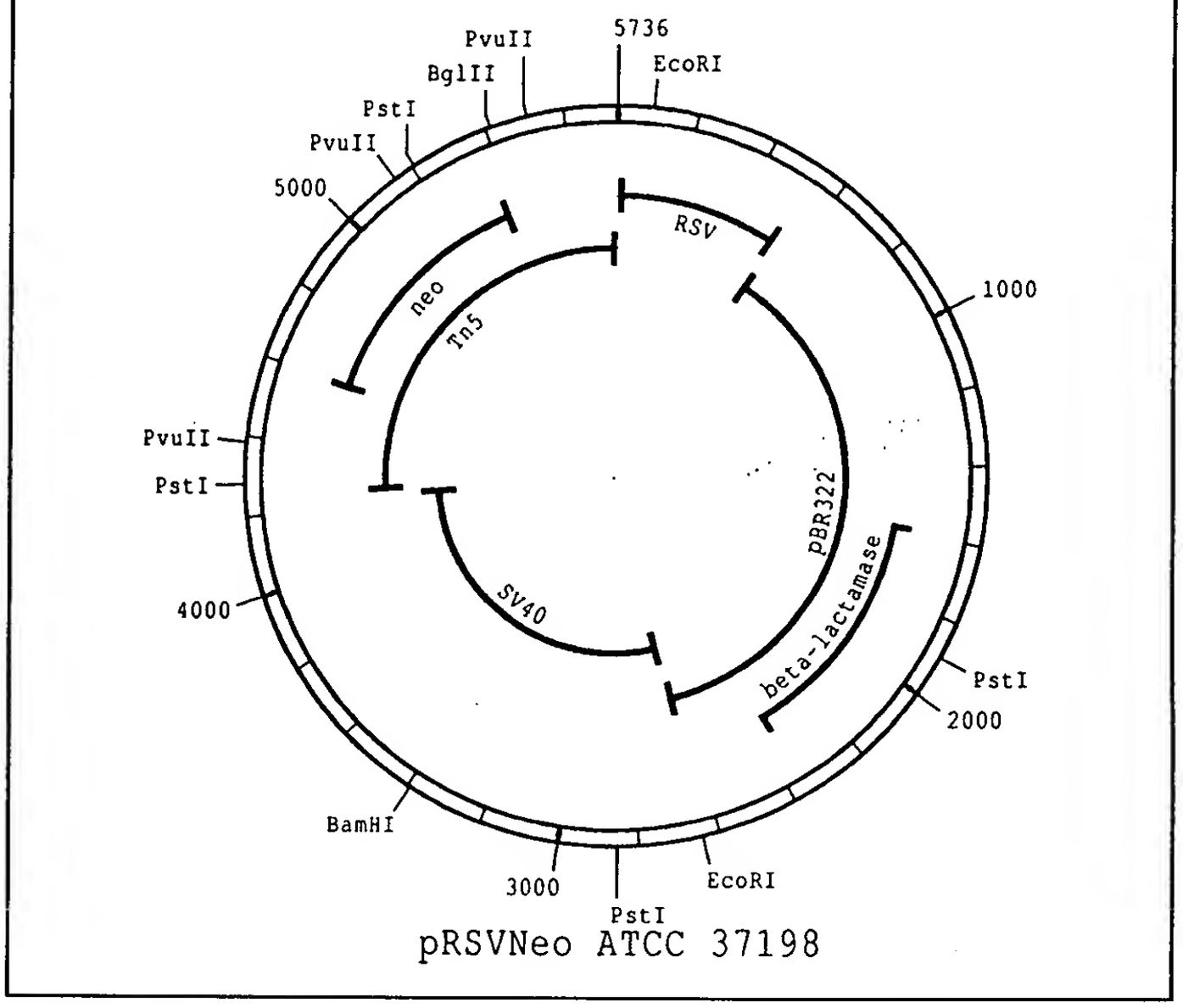

pRSVNeo ATCC 37198

removed. Gene (Amst.) 41: 337-342, 1986. (Medium 1236 37C) **Shipped:** in freeze-dried *Escherichia coli* JM101.

pBGS131- (plasmid)

37445 B.G. Spratt. Construction: pBR322, Tn*903,* M13tg131, bacteriophage f1 *ori.* Size(kb): 4.4. Marker(s): Kan^r. Cloning sites: *Eco*RI *Sma*I *Sst*I *Eco*RV *Sph*I *Kpn*I *Xba*I *Hin*dIII *Bam*HI *Acc*I *Hin*cII *Sal*I *Pst*I *Bgl*II. Replicon(s): pMB1, f1. Contains MCS. Kanamycin-resistant analog of pEMBL. The duplicate *Hin*dIII, *Sma*I and *Acc*I sites have been removed. Gene (Amst.) 41: 337-342, 1986. (Medium 1236 37C) **Shipped:** in freeze-dried *Escherichia coli* JM101.

pBLA 11 (plasmid)

39788 Bio-technology General Corporation. Marker(s): Tet^r. Promoter(s): λPL. Contains the ribosomal binding site of the β-lacatamase gene. U.S. Patent No. 4,742,004 dated May 3, 1988. Note: This material is cited in a U.S. and/or other Patent and may not be used to infringe the patent claims. (Medium 1273 37C) **Shipped:** in freeze-dried *Escherichia coli.*

pBLCAT2 (plasmid)

37527 B. Luckow. Construction: pUC18, SV40, cml, herpes simplex virus *tk* promoter. Size(kb): 4.5. Marker(s): Amp^r. Cloning sites: *Hin*dIII *Sph*I (*Pst*I) *Sal*I *Xba*I *Bam*HI *Bgl*II *Xho*I *Cla*I *Sma*I *Kpn*I *Sst*I (*Eco*RI). Replicon(s): pMB1. Promoter(s): HSV *tk*. Contains MCS. Developed to simplify construction of hybrid CAT genes. Nucleic Acids Res. 15: 5490, 1987. (Medium 1227 37C) **Shipped:** in freeze-dried *Escherichia coli.*

pBLCAT3 (plasmid)

37528 B. Luckow. Construction: pUC18, SV40, cml. Size(kb): 4.34. Marker(s): Amp^r. Cloning sites: *Hin*dIII *Sph*I *Pst*I *Sal*I *Xba*I *Bam*HI *Bgl*II *Xho*I *Cla*I *Sma*I *Kpn*I *Sst*I (*Eco*RI). Replicon(s): pMB1. Contains MCS. Developed to simplify construction of hybrid CAT genes. Nucleic Acids Res. 15: 5490, 1987. (Medium 1227 37C) **Shipped:** in freeze-dried *Escherichia coli.*

pBR313 (plasmid)

37018 H. Boyer. Other names: NRRL B-14220. Size(kb): 9.6. Marker(s): Amp^r, Tet^r. Cloning sites: *Eco*RI *Sma*I *Hpa*I *Hin*dIII *Bam*HI *Sal*I. Replicon(s): pMB1. A general purpose plasmid vector. Gene (Amst.) 2: 75-93, 1977. (Medium 1227 37C) **Shipped:** in freeze-dried *Escherichia coli* RR1.

pBR322 (plasmid)

31344 Genentech, Inc. Size(kb): 4.363. Marker(s): Amp^r, Tet^r. Cloning sites: *Eco*RI *Cla*I *Hin*dIII *Eco*RV *Bam*HI *Sph*I *Sal*I *Xma*I *Nru*I *Ava*I *Bal*I *Pvu*II *Tth*111I *Nde*I *Pst*I *Pvu*I *Sca*I *Aat*II. Replicon(s): pMB1. A general purpose plasmid vector. U.S. Patent No. 4,366,246 dated Dec. 28, 1982; U.S. Patent No. 4,342,832 dated Aug. 3, 1982. Note: This material is cited in a U.S. and/or other Patent and may not be used to infringe the patent claims. (Medium 1227 37C) **Shipped:** in freeze-dried *Escherichia coli* RR1.

37017 **Preceptrol® culture.** H. Boyer. Construction: pBR313. Size(kb): 4.363. Marker(s): Amp^r, Tet^r. Cloning sites: *Eco*RI *Cla*I *Hin*dIII *Eco*RV *Bam*HI *Sph*I *Sal*I *Xma*III *Nru*I *Ava*I *Bal*I *Pvu*II *Tth*111I *Nde*I *Pst*I *Pvu*I *Sca*I *Aat*II. Replicon(s): pMB1. A general purpose plasmid vector. Gene (Amst.) 2: 95-113, 1977. (Medium 1227 37C) **Shipped:** in freeze-dried *Escherichia coli* RR1.

pBR327 (plasmid)

37516 E.M. Lederberg. Size(kb): 3.3. Marker(s): Amp^r, Tet^r. Cloning sites: *Aat*II *Ava*I *Cla*I *Eco*RI *Hgi*EII *Hin*dIII *Bam*HI *Eco*RV *Nru*I *Pst*I *Pvu*I *Sal*I *Sca*I *Sph*I *Xma*III *Xmn*I. Replicon(s): pMB1. A general purpose plasmid vector. Derived from pBR322 by deleting sequences between nt 1430 (*Ava*I) and 2519. The *bom* or Mob site has been deleted. Recomb. DNA Tech. Bull. 2: 1980; Nature (Lond.) 283: 216-218, 1980; Gene (Amst.) 13: 25-35, 1981; *ibid.,* 50: 3-40, 1986. (Medium 1227 37C) **Shipped:** in freeze-dried *Escherichia coli* GM21.

pBR328 (plasmid)

37517 E.M. Lederberg. Construction: pBR327 *ori,* pBR325 cml. Size(kb): 4.9. Marker(s): Amp^r, Cml^r, Tet^r. Cloning sites: *Aat*II *Asu*II *Ava*I *Cla*I *Hgi*EII *Hin*dIII *Tth*111I *Bam*HI *Eco*RI *Eco*RV *Bal*I *Bam*HI *Eco*RI *Eco*RV *Nco*I *Nru*I *Pst*I *Pvu*I *Pvu*II *Sal*I *Sph*I *Xma*III. Replicon(s): pMB1. A general purpose plasmid vector. Contains a 482 bp inverted duplication. Constructed from the *Pst*I/*Bam*HI fragment of pBR327 containing the replication origin and the *Pst*I/*Bam*HI fragment of pBR325 containing the *cml* gene. Gene (Amst.) 9: 287-305, 1980; *ibid.,* 50: 3-40, 1986. (Medium 1227 37C) **Shipped:** in freeze-dried *Escherichia coli* RR1.

pBR329 (plasmid)

37264 R.L. Rodriguez. Construction: pBR327, pBR328 837 bp *cml.* Size(kb): 4.2. Marker(s): Amp^r, Cml^r, Tet^r. Cloning sites: *Aat*I *Asu*II *Ava*I *Cla*I *Hgi*EII *Hin*dIII *Tth*111I *Bal*I *Bam*HI *Eco*RI *Eco*RV *Nco*I *Nru*I *Pst*I *Pvu*I *Pvu*II *Sal*I *Sph*I *Xma*III *Xmn*I. Replicon(s): pMB1. A general purpose plasmid vector. This plasmid does not carry the inverted duplication region found in pBR328. Gene (Amst.) 17: 79-89, 1982; Rodriguez, R.L.; Tait, R.C. Recombinant DNA techniques. Reading, MA: Addison-Wesley; 1983. (Medium 1227 37C) **Shipped:** in freeze-dried *Escherichia coli* RR1.

pBRH1 (plasmid)

37070 R.L. Rodriguez. Construction: pBR316. Size(kb): 7.7. Marker(s): Amp^r. Cloning sites: *Eco*RI. Replicon(s): pMB1. Promoter cloning plasmid vector using expression of tetracycline resistance for selection. Constructed by inserting an oligonucleotide containing an *Eco*RI site into the *Hin*dIII site of pBR316, inactivating the *tet* promoter. Rodriguez, R.L.; Denhardt, D.T., eds. Vectors: A survey of molecular cloning vectors and their uses. Boston: Butterworth; 1988:pp. 153-177; Gene (Amst.) 7: 271-288, 1979. (Medium 1227 37C) **Shipped:** in freeze-dried *Escherichia coli* RR1.

pBRH3B (plasmid)

37072 R.L. Rodriguez. Construction: pBR316. Size(kb): 7.7. Marker(s): Amp^r. Cloning sites: *Eco*RI. Replicon(s): pMB1. Promoter cloning plasmid vector using expression of tetracycline resistance for selection. Constructed by inserting an oligonucleotide containing an *Eco*RI site into the *Hin*dIII site of pBR316, inactivating the *tet* promoter. Resistant to low levels of tetracycline without an insert and can be used to clone only strong promoters. Rodriguez, R.L.; Denhardt, D.T., eds. Vectors: A survey of molecular cloning vectors and their uses. Boston: Butterworth; 1988:pp. 153-177; Gene (Amst.) 7: 271-288, 1979. (Medium 1227 37C) **Shipped:** in freeze-dried *Escherichia coli* RR1.

pBRH4 (plasmid)

37071 R.L. Rodriguez. Construction: pBR322. Size(kb): 4. Marker(s): Amp^r. Cloning sites: *Eco*RI. Replicon(s): pMB1. Promoter cloning plasmid vector using expression of tetracycline resistance for selection. Gene (Amst.) 7: 271-288, 1979. (Medium 1227 37C) **Shipped:** in freeze-dried *Escherichia coli* RR1.

pBRM (plasmid)

37283 J.P. White. Construction: pBR322. Size(kb): 2. Marker(s): Amp^r. Cloning sites: *Bam*HI *Eco*RI. Replicon(s): pMB1. Proc. Natl. Acad. Sci. USA 79: 233-237, 1982. (Medium 1227 37C) **Shipped:** in freeze-dried *Escherichia coli.*

pBRN3 (plasmid)

37137 D.B. Wilson. Construction: pBR322. Size(kb): 2. Marker(s): Amp^r. Cloning sites: *Hin*dIII *Eco*RI *Bgl*I *Pst*I. Replicon(s): pMB1. A general purpose plasmid vector useful for construction of shuttle vectors for animal cells. Deletion includes poison sequences near the origin of replication. A pBR322 deletion from near bp 50 to near bp 2400. Plasmid 7: 287-289, 1982. (Medium 1227 37C) **Shipped:** in freeze-dried *Escherichia coli* K-12 SK2284.

pBRN/B (plasmid)

37348 M.M. Haltiner. Construction: pBR322. Size(kb): 3.3. Marker(s): Amp^r. Cloning sites: *Bgl*II *Nru*I *Pst*I *Eco*RI *Sal*I *Bam*HI *Cla*I *Eco*RV *Hin*dIII *Nde*I *Pvu*I *Sna*I *Sph*I *Tth*111I *Xma*I. Replicon(s): pMB1. Plasmid vector for use in generating nested sets of deletion mutations. Contains a linker cassette sequence containing *Nru*I and *Bgl*II sites adjacent to each other. Nucleic Acids Res. 13: 1015-1025, 1985. (Medium 1227 37C) **Shipped:** in freeze-dried *Escherichia coli* HB101.

pBRN/S (plasmid)

37347 M.M. Haltiner. Construction: pBR322. Size(kb): 3.3. Marker(s): Amp^r. Cloning sites: *Sac*I *Nru*I *Pst*I *Eco*RI *Sal*I *Bam*HI *Cla*I *Eco*RV *Hin*dIII *Nde*I *Pvu*I *Sna*I *Sph*I *Tth*111I

pCM4 (plasmid)
37174 R.L. Rodriguez. Construction: pBR327, Tn*9 cml*. Size(kb): 4.2. Marker(s): Amp^r. Replicon(s): pMB1. Contains promoterless CAT gene flanked by *Bam*HI sites which can be used to construct other vectors. Gene (Amst.) 20: 305-316, 1982. (Medium 1227 37C) **Shipped:** in freeze-dried *Escherichia coli* RR1.

pCM7 (plasmid)
37173 R.L. Rodriguez. Construction: pBR327, Tn*9 cml*. Size(kb): 4.2. Marker(s): Amp^r. Replicon(s): pMB1. Contains promoterless CAT gene flanked by *Hin*dIII sites which can be used to construct other vectors. Gene (Amst.) 20: 305-316, 1982. (Medium 1227 37C) **Shipped:** in freeze-dried *Escherichia coli* RR1.

pcos1EMBL (cosmid)
37568 A. Craig. Construction: R6K, pcos4EMBL. Size(kb): 6.3. Marker(s): Kan^r, Tet^r. Cloning sites: *Bam*HI. Replicon(s): R6K. One of a family of cosmid vectors (ATCC 37568-37571) containing a R6K origin. Contains one λ *cos* site. Gene (Amst.) 57: 229-237, 1987. (Medium 1273 37C) **Shipped:** in freeze-dried *Escherichia coli* DH1.

pcos2EMBL (cosmid)
37569 A. Craig. Construction: pcos1EMBL. Size(kb): 6.1. Marker(s): Kan^r, Tet^r. Cloning sites: *Bam*HI. Replicon(s): R6K. One of a family of cosmid vectors (ATCC 37568-37571) containing a R6K origin. Differs from pcos1EMBL (ATCC 37568) in having 2 λ *cos* sites and a deletion in the region of the Kan^r gene. Gene (Amst.) 57: 229-237, 1987. (Medium 1273 37C) **Shipped:** in freeze-dried *Escherichia coli* DH1.

pcos5EMBL (cosmid)
37570 A. Craig. Construction: pcos3EMBL. Size(kb): 6. Marker(s): Kan^r. Cloning sites: *Bam*HI. Replicon(s): R6K. Contains MCS. One of a family of cosmid vectors (ATCC 37568-37571) containing a R6K origin. Differs from pcos3EMBL in having *Not*I sites flanking the *Bam*HI cloning site. Gene (Amst.) 57: 229-237, 1987. (Medium 1236 37C) **Shipped:** in freeze-dried *Escherichia coli* DH1.

pcos6EMBL (cosmid)
37571 A. Craig. Construction: pcos5EMBL, Pi. Size(kb): 6. Marker(s): Kan^r. Cloning sites: *Bam*HI. Replicon(s): R6K. Contains MCS. One of a family of cosmid vectors (ATCC 37568-37571) containing a mutated R6K origin for increased copy number. Has increased copy number over pcos5EMBL (ATCC 37570). Gene (Amst.) 57: 229-237, 1987. (Medium 1236 37C) **Shipped:** in freeze-dried *Escherichia coli* DH1.

pCR1 (plasmid)
37135 D.R. Helinski. Construction: ColE1. Size(kb): 11.4. Marker(s): Kan^r. Cloning sites: *Eco*RI *Hin*dIII. Replicon(s): ColE1. A general purpose plasmid vector. Science (Washington, DC) 196: 172-174, 1977. (Medium 1236 37C) **Shipped:** in freeze-dried *Escherichia coli* C600.

pCS3 (plasmid)
39142 Cetus Corporation. Construction: pEW27, pOP9. Marker(s): Amp^r, Tet^r. Cloning sites: *Eco*RI *Pvu*II *Pst*I *Pvu*I *Cla*I *Hin*dIII *Sph*I *Sal*I *Bam*HI *Nru*I. Replicon(s): ColE1. Gives high copy number at high temperature. Contains the replication origin for high copy number at high temperature of pEW27 (ATCC 37124). pOP9 was constructed by cloning the *Eco*RI/*Pvu*II fragment containing the origin of pOP6 into pBR322. This should NOT be grown over 30C; it is best between 28-30C. U.S. Patent No. 4,677,064 dated June 30, 1987; Proc. Natl. Acad. Sci. USA 79: 3570-3574, 1982. Note: This material is cited in a U.S. and/or other Patent and may not be used to infringe the patent claims. (Medium 1227 28C) **Shipped:** in freeze-dried *Escherichia coli* MM294.

pD553 (plasmid)
37284 D.J. Drahos. Construction: pKO3, λ. Marker(s): Amp^r. Cloning sites: *Eco*RI *Hin*dIII *Hpa*I. Replicon(s): pMB1. Terminator: λ *t*L1. Plasmid containing antiterminating λ gene N and *nut L* site. Gene (Amst.) 16: 261-274, 1981. (Medium 1227 37C) **Shipped:** in freeze-dried *Escherichia coli* C600 *galK*$^-$.

pDG141 (plasmid)
39588 Cetus Corporation. Other names: CMCC 1966. Construction: pBR322. Size(kb): 2.5. Marker(s): Amp^r. Cloning sites: *Sac*I. Replicon(s): pMB1. Promoter(s): *trp*. Expression vector with a tryptophan promoter-operator and ribosome binding site operably linked with an ATG start codon. U.S. Patent No. 4,889,818 dated Dec. 26, 1989; U.S. Patent No. 4,711,845 dated Dec. 12, 1987; U.S. Patent No. 4,784,949 dated Nov. 15, 1988. Note: This material is cited in a U.S. and/or other Patent and may not be used to infringe the patent claims. (Medium 1227 37C) **Shipped:** in freeze-dried *Escherichia coli*.

pDM1 (plasmid)
37357 D. Mead. Construction: bacteriophage f1, pAT153. Size(kb): 3.8. Marker(s): Amp^r. Replicon(s): pMB1. Contains an easily isolated f1 intergenic region for conversion of any plasmid to an ssDNA vector (use *Sal*I plus *Acc*I plus *Hin*cII). Nucleic Acids Res. 13: 1103-1118, 1985. (Medium 1227 37C) **Shipped:** in freeze-dried *Escherichia coli* NM522.

pDR42 (plasmid)
37180 G.N. Bennett. Construction: pBR322, *Escherichia coli trp*. Size(kb): 4.4. Marker(s): Amp^r, Tet^r. Cloning sites: *Pst*I *Eco*RI *Hin*dIII *Bam*HI *Sal*I. Replicon(s): pMB1. A pBR322 derivative with increased tetracycline resistance and increased fusaric acid sensitivity. Hybrid *trp-tet* promoter formed by insertion of partial *trp* promoter at the *Cla*I site. Plasmid 7: 290-293, 1982. (Medium 1227 37C) **Shipped:** in freeze-dried *Escherichia coli* RR1.

pDR540 (plasmid)
37282 G.N. Bennett. Construction: pKO1, *Escherichia coli trp-lac* fusion promoter *tac*. Marker(s): Amp^r, *galK*$^+$. Replicon(s): pMB1. Promoter(s): *tac*. Contains an easily purifiable *trp-lac* hybrid promoter which can be used to construct expression vectors. Unstable when transformed into C600 *galK*$^-$. Gene (Amst.) 20: 231-243, 1982. (Medium 1227 37C) **Shipped:** in freeze-dried *Escherichia coli* JM103.

pEA300 (plasmid)
37181 E. Amann. Construction: pKK84-1, ptrpH1. Size(kb): 5.5. Marker(s): Amp^r. Cloning sites: *Eco*RI *Cla*I *Hin*dIII *Bam*HI *Pvu*II. Replicon(s): pMB1. Promoter(s): *trp*. Terminator: *rrnB*. For construction of -35 *trp* expression vectors. Constructed by inserting a 192 bp fragment containing the -35 sequence of the *trp* promoter into the *Cla*I site of pKK84-1. Contains two terminators tandemly arranged. Maniatis, T. *et al.*, eds. Molecular cloning: a laboratory manual. Cold Spring Harbor, NY: CSHL; 1982:pp. 413-446; Gene (Amst.) 25: 167-178, 1983. (Medium 1227 37C) **Shipped:** in freeze-dried *Escherichia coli* W3110 *lacI*^{q}.

pEMBL8$^+$ (phagemid)
37396 G. Cesareni. Construction: pUC8, bacteriophage f1. Size(kb): 3.99. Marker(s): Amp^r. Cloning sites: *Eco*RI *Ava*I *Sma*I *Xma*I *Bam*HI *Sal*I *Acc*I *Pst*I *Hin*dII *Hin*dIII *Cla*I *Eco*B *Nae*I. Replicon(s): pMB1, f1. Contains MCS. ssDNA-producing plasmid with polylinker in *lacZ'*. Nucleic Acids Res. 11: 1645-1655, 1983. (Medium 1227 37C) **Shipped:** in freeze-dried *Escherichia coli* K-12 71/18.

pEMBL8$^-$ (plasmid)
37397 G. Cesareni. Construction: pUC8, bacteriophage f1. Size(kb): 3.99. Marker(s): Amp^r. Cloning sites: *Eco*RI *Ava*I *Sma*I *Xma*I *Bam*HI *Sal*I *Acc*I *Pst*I *Hin*dII *Hin*dIII *Cla*I *Eco*B *Nae*I. Replicon(s): pMB1, f1. Contains MCS. ssDNA-producing plasmid with polylinker in *lacZ'*. Nucleic Acids Res. 11: 1645-1655, 1983. (Medium 1227 37C) **Shipped:** in freeze-dried *Escherichia coli* K-12 71/18.

pEMBL9 (plasmid)
37395 G. Cesareni. Construction: pUC9, pEMBL8, *lacZ*. Size(kb): 3.99. Marker(s): Amp^r. Cloning sites: *Eco*RI *Sma*I *Bam*HI *Sal*I *Ava*I *Pst*I *Hin*dIII. Contains MCS. ssDNA-producing plasmid with polylinker in *lacZ'*. Nucleic Acids Res. 11: 1645-1655, 1983; Gene (Amst.) 35: 27-32, 1985. (Medium 1227 37C) **Shipped:** in freeze-dried *Escherichia coli* K-12 71/18.

pEMBL18-Not (Sma-) (plasmid)
37573 A. Craig. Construction: pEMBL18. Size(kb): 3.9. Marker(s): Amp^r. Cloning sites: *Eco*RI *Sac*I *Kpn*I *Not*I *Bam*HI *Sal*I *Pst*I *Sph*I *Hin*dIII. Replicon(s): pMB1. Promoter(s): *lac*. Contains MCS. General purpose vector modified to include a *Not*I site to facilitate library construction and chromosome walking. *Sma*I site in polylinker of pEMBL18 changed to a *Not*I site. Gene (Amst.) 57: 229-237, 1987. (Medium 1227 37C) **Shipped:** in freeze-dried *Escherichia coli* JM101.

pLA7 (plasmid)

37281 I.R. Beacham. Construction: pCB1, pBR322. Size(kb): 4.1. Marker(s): Amp^r, ush. Cloning sites: *Bcl*I *Ava*I. Replicon(s): pMB1. A positive selection vector for cloning *Sau*3AI-generated DNA fragments. Growth of the plasmid in a *dam*$^-$ host is necessary for *Bcl*I cleavage. Gene (Amst.) 27: 323-325, 1984. (Medium 1227 37C) **Shipped:** in freeze-dried *Escherichia coli* GM33.

pLG200 (plasmid)

37113 L.P. Guarente. Construction: pBR322, *Escherichia coli*. Size(kb): 8.9. Marker(s): Amp^r. Cloning sites: *Hin*dIII. Replicon(s): pMB1. Promoter(s): *lacUV5*. Can be used to construct a plasmid which directs the expression of a cloned gene under the control of the *lacUV5* promoter. Cell 20: 543-553, 1980. (Medium 1227 37C) **Shipped:** in freeze-dried *Escherichia coli* LG90.

pLG338 (plasmid)

37130 N.G. Stoker. Construction: pSC105. Size(kb): 7.3. Marker(s): Kan^r, Tet^r. Cloning sites: *Kpn*I *Eco*RI *Xho*I *Sma*I *Bam*HI *Hin*cII/*Sal*I. Replicon(s): pSC101. A low copy number (6-8 per chromosome), general purpose plasmid vector. Gene (Amst.) 18: 335-341, 1982. (Medium 1273 37C) **Shipped:** in freeze-dried *Escherichia coli* C600.

pLG339 (plasmid)

37131 N.G. Stoker. Construction: pSC105. Size(kb): 6.3. Marker(s): Kan^r, Tet^r. Cloning sites: *Pvu*II *Eco*RI *Xho*I *Sma*I *Bam*HI *Sph*I *Hin*cII/*Sal*I. Replicon(s): pSC101. A low copy number (6-8 per chromosome), general purpose plasmid vector. Gene (Amst.) 18: 335-341, 1982. (Medium 1273 37C) **Shipped:** in freeze-dried *Escherichia coli* C600.

pLG400 (plasmid)

37114 L.P. Guarente. Construction: pBR322, *Escherichia coli*. Size(kb): 8.9. Marker(s): Amp^r. Cloning sites: *Hin*dIII *Bam*HI. Replicon(s): pMB1. Promoter(s): *lacUV5*. Can be used to construct a plasmid which directs the expression of a cloned gene under the control of the *lacUV5* promoter. Cell 20: 543-553, 1980. (Medium 1227 37C) **Shipped:** in freeze-dried *Escherichia coli* LG90.

pLKC480 (plasmid)

37594 A.A. Tiedman. Construction: A *lacZY* plasmid, Tn*5*. Size(kb): 9.9. Marker(s): Amp^r, Kan^r. Cloning sites: *Eco*RI *Bam*HI *Sal*I *Hin*dIII. Replicon(s): pMB1. Contains MCS. One of a series of *lacZY* fusion vectors (ATCC 37594-37596) that allow fusions in one of three reading frames and retain flanking DNA for homologous recombination into the *Escherichia coli* genome. The 6.3 kb *lacZY*-Kan^r cassette is released with *Sma*I. A 1.3 kb *Hin*dIII/*Nru*I Kan^r fragment (with *Hin*dIII site filled in) was inserted at the *Nru*I site of a *lacZY* fusion plasmid. Nucleic Acids Res. 16: 3587, 1988. (Medium 1227 37C) **Shipped:** in freeze-dried *Escherichia coli* TX528.

pLKC481 (plasmid)

37595 A.A. Tiedman. Construction: A *lacZY* plasmid, Tn*5*. Size(kb): 9.9. Marker(s): Amp^r, Kan^r. Cloning sites: *Eco*RI *Bam*HI *Sal*I *Hin*dIII. Replicon(s): pMB1. Contains MCS. One of a series of *lacZY* fusion vectors (ATCC 37594-37596) that allow fusions in one of three reading frames and contain flanking DNA for homologous recombination into the *Escherichia coli* genome. The 6.3 kb *lacZY*-Kan^r cassette is released with *Sma*I. A 1.3 kb *Hin*dIII/*Nru*I Kan^r fragment (with *Hin*dIII site filled in) was inserted at the *Nru*I site of a *lacZY* fusion plasmid. Nucleic Acids Res. 16: 3587, 1988. (Medium 1227 37C) **Shipped:** in freeze-dried *Escherichia coli*.

pLKC482 (plasmid)

37596 A.A. Tiedman. Construction: A *lacZY* plasmid, Tn*5*. Size(kb): 9.9. Marker(s): Amp^r, Kan^r. Cloning sites: *Eco*RI *Bam*HI *Sal*I *Hin*dIII. Replicon(s): pMB1. Contains MCS. One of a series of *lacZY* fusion vectors (ATCC 37594-37596) that allow fusions in one of three reading frames and retain flanking DNA for homologous recombination into the *Escherichia coli* genome. The 6.3 kb *lacZY*-Kan^r cassette is released with *Sma*I. A 1.3 kb *Hin*dIII/*Nru*I Kan^r fragment (with *Hin*dIII site filled in) was inserted at the *Nru*I site of a *lacZY* fusion plasmid. Nucleic Acids Res. 16: 3587, 1988. (Medium 1227 37C) **Shipped:** in freeze-dried *Escherichia coli* TX528.

pLM0.8 (plasmid)

39604 Actagen, Inc. Marker(s): Amp^r. Note: This material is cited in a U.S. and/or other Patent and may not be used to infringe the patent claims. (Medium 1227 37C) **Shipped:** in freeze-dried *Escherichia coli* HB101.

pLV57 (plasmid)

37177 D. O'Connor. Construction: pBR325, NTP14m07(Ts). Size(kb): 6.1. Marker(s): Amp^r, Cml^r, *Eco*RIm(Ts)r$^+$. Cloning sites: *Hin*dIII *Bgl*II *Ava*I *Eco*RI. Replicon(s): pMB1. Positive selection cloning vector employing *Eco*RI restriction-modification system. Gene (Amst.) 20: 219-229, 1982. (Medium 1227 37C) **Shipped:** in freeze-dried *Escherichia coli* HB101.

pLV59 (plasmid)

37178 D. O'Connor. Construction: pACYC184, NTP14m(Ts). Size(kb): 6.3. Marker(s): Cml^r, *Eco*RIm(Ts)r$^+$, Tet^r. Cloning sites: *Hin*dIII *Bgl*II *Pst*I *Bam*HI *Eco*RI *Sal*I/*Hin*cII *Hin*cII. Replicon(s): p15A. Positive selection cloning vector employing *Eco*RI restriction system. Gene (Amst.) 20: 219-229, 1982. (Medium 1675 37C) **Shipped:** in freeze-dried *Escherichia coli* HB101.

pMAM17 (plasmid)

37325 B. Polisky. Construction: pPLc236, ColE1 rop. Size(kb): 3.01. Marker(s): Amp^r. Cloning sites: *Eco*RI *Bam*HI *Hin*dIII *Pvu*II. Replicon(s): ColE1. Promoter(s): λPL. Expression vector that permits positive selection of DNA inserts; also permits high level temperature-induced expression of inserted DNA as fusion protein. Gene (Amst.) 31: 155-164, 1984. (Medium 1227 30C) **Shipped:** in freeze-dried *Escherichia coli* K-12 ΔH1 Δ*trp*.

pMB9 (plasmid)

37019 H. Boyer ← F. Bolivar. Construction: pMB8, pSC101. Size(kb): 5.2. Marker(s): Tet^r. Cloning sites: *Bam*HI *Hin*dIII *Sal*I *Eco*RI. Replicon(s): pMB1. A general purpose plasmid vector. Gene (Amst.) 2: 75-93, 1977. (Medium 1273 37C) **Shipped:** in freeze-dried *Escherichia coli* HB101.

pMF7 (cosmid)

37117 M. Feiss. Construction: pBR322, λ. Size(kb): 6.8. Marker(s): Amp^r. Cloning sites: *Eco*RI *Sal*I. Replicon(s): pMB1. A general purpose cosmid vector. Gene (Amst.) 17: 123-130, 1982; Proc. Natl. Acad. Sci. USA 79: 3498-3502, 1982. (Medium 1227 37C) **Shipped:** in freeze-dried *Escherichia coli* K-12 IC202.

pMF517 (cosmid)

37118 M. Feiss. Construction: pBR322, λ. Size(kb): 7.1. Marker(s): Amp^r. Cloning sites: *Cla*I *Hin*dIII *Sal*I *Pst*I *Eco*RI. Replicon(s): pMB1. A general purpose cosmid vector. Gene (Amst.) 17: 123-130, 1982; Proc. Natl. Acad. Sci. USA 79: 3498-3502, 1982. (Medium 1227 37C) **Shipped:** in freeze-dried *Escherichia coli* K-12 IC202.

pMH621 (plasmid)

31775 NCI-Frederick Cancer Research Center. Size(kb): 7.6. Marker(s): Amp^r. Cloning sites: *Bgl*II. Replicon(s): pMB1. Promoter(s): *ompF*. An expression vector for cytoplasmic export of a cloned gene product. Maniatis, T.; *et al.*, eds. Molecular cloning: A laboratory manual. Cold Spring Harbor, NY: CSHL; 1982:pp. 429-430. Note: This material is cited in a U.S. and/or other Patent Application and may not be used to infringe the patent claims. (Medium 1227 37C) **Shipped:** in freeze-dried *Escherichia coli* K-12 MH2000.

40038 NCI-Frederick Cancer Research Center. Size(kb): 7.6. Marker(s): Amp^r. Cloning sites: *Bgl*II. Replicon(s): pMB1. Promoter(s): *ompF*. An expression vector for cytoplasmic export of cloned gene product by formation of a fusion protein with the *ompF* signal sequence. Requires as host MH3000 (ATCC 35468) for viability and TK 1046 (ATCC 35467) for protein expression. Note: This material is cited in a U.S. and/or other Patent Application and may not be used to infringe the patent claims. **Shipped:** as thawed purified plasmid DNA, supplied by depositor.

pMLB1034 (plasmid)

37222 M.L. Berman. Construction: pMC871, pBR322. Size(kb): 7.2. Marker(s): Amp^r. Cloning sites: *Bam*HI *Eco*RI *Sma*I. Replicon(s): pMB1. Contains MCS. For screening promoters by determining β-galactosidase activity (*lacZ*). The cloning sites are 5′ to a promoterless β-galactosidase gene. The insert

Exhibit B

EUKARYOTIC GENES CLONED AND EXPRESSED PRIOR TO MARCH 19, 1980

	Gene	Reference	System
MAMMALIAN GENE: β-GALACTOSIDASE EXPRESSION SYSTEM			
1	human somatostatin	Itakura et al. (1977)	*β-gal* promoter
2	chicken ovalbumin	Fraser et al. (1978) Mercereau et al. (1978)	*β-gal* promoter
3	mature human insulin	Goeddel et al. (1979a)	*β-gal* promoter
MAMMALIAN GENE: β-LACTAMASE EXPRESSION SYSTEM (Inserted into PstI site of pBR322)			
4	rat preproinsulin	Villa-Komaroff (1978)	*bla* promoter
5	mouse dihydrofolate reductase	Chang et al. (1978)	*bla* promoter
6	rat pregrowth hormone	Seeburg et al. (1978)	*bla* promoter
MAMMALIAN GENE: *TRP D* EXPRESSION SYSTEM			
7	human pregrowth hormone	Martial et al. (1979)	*trp* promoter
MAMMALIAN GENE: *LAC* PROMOTER			
8	human mature growth hormone	Goeddel et al. (1979b)	*lac* promoter[1]
MAMMALIAN GENE: OTHER			
9	human globin	Wilson et al. (1979)	
VIRAL GENE (Genes which are expressed normally by infected eukaryotic hosts)			
10	simian virus 40 t antigen	Roberts et al. (1979)	*lac* promoter[2]
11	human hepatitis B virus	Burrell et al. (1979)	*bla* promoter
12	fowl plague virus	Emtage et al. (1980)	*trp* promoter Insert at pBR322 HindIII
YEAST GENE			
13	Neurospora dehydroquinolate hydrolase	Vapnek et al. (1977)	Insert at pBR322 HindIII/EcoRI
14	Saccharomyces *His* and *Leu*	Ratzkin et al. (1977)	ColEI plasmid
15	Saccharomyces galactokinase	Schell et al. (1979)	Insert at pBR322 BamHI
16	Saccharomyces OMP decarboxylase	Bach et al. (1979)	Insert at pBR322 HindIII

Key: *β-gal* = β-galactosidase gene
bla = β-lactamase gene
trp = tryptophan operon
lac = lactose operon

[1] System subsequently used by Goeddel et al. (Nucleic Acids Research, Vol. 8, No. 18, pp. 4057-4074 (1980)), to express IFN-β.

[2] System subsequently used by Taniguchi et al. (PNAS, 77:5230-5233 (September 1980)), to express IFN-β.

LIST OF CITES

1. Itakura et al., Science, 198:1056-1063 (December 1977)
2. Fraser et al., PNAS, 75:5936-5940 (December 1978)

   Mercereau-Puijalon et al., Nature, 275:505-510 (October 12, 1978)
3. Goeddel et al., PNAS, 76:106-110 (January 1979a)
4. Villa-Komaroff et al., PNAS 75:3727-3731 (August 1978)
5. Chang et al., Nature, 275:617-624 (October 19, 1978)
6. Seeburg et al., Nature, 276:795-798 (December 21/28, 1978)
7. Martial et al., Science, 205:602-607 (August 1979)
8. Goeddel et al., Nature, 281:544-548 (October 18, 1979b)
9. Wilson et al., PNAS, 76:5631-5635 (1979)
10. Roberts et al., PNAS, 76:5596-5600 (November 1979)
11. Burrell et al., Nature, 279:43-47 (May 3, 1979)
12. Emtage et al., Nature, 283:171-174 (January 10, 1980)
13. Vapnek et al., PNAS, 74:3508-3512 (August 1977)
14. Ratzkin et al., PNAS, 74:487-491 (February 1977)
15. Schell et al., Gene, 5:291-303 (1979)
16. Bach et al., PNAS, 76:386-390 (January 1979)